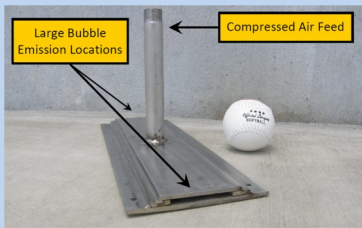


# BioMix™ Success Story — Anaerobic Selector Mixing

F. Wayne Hill WRC, 60 MGD, Gwinnett County GA

## Project Details

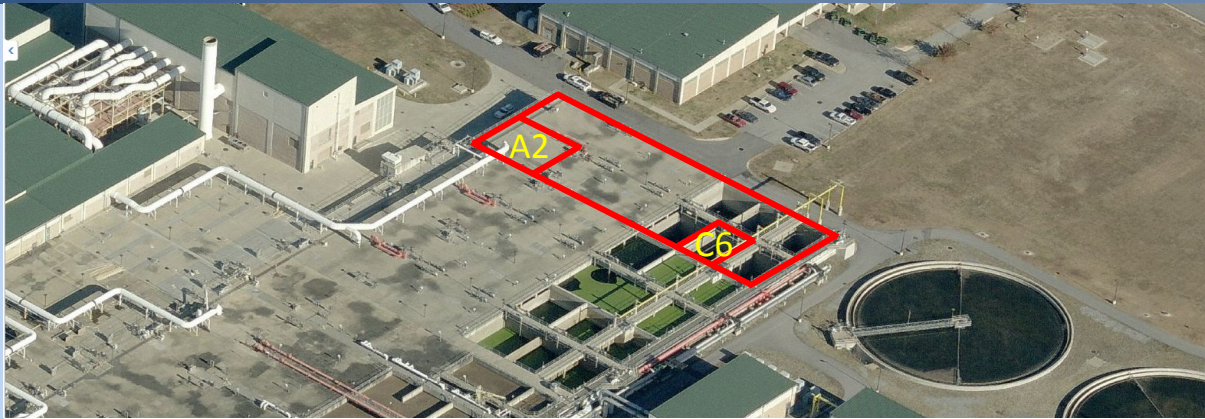
- Modified Bardenpho anaerobic selector reactor mixing
- BioMix system fires short bursts of compressed air through engineered nozzles affixed to tank floor
- Gas volumes ( or “large bubbles”) transfer insignificant amount of oxygen into wastewater
- Similar orthophosphate release at fraction of installed power



BioMix nozzle

## About EnviroMix

Headquartered in Charleston, SC, EnviroMix is a privately held corporation, which designs and manufactures treatment systems to reduce energy and maintenance costs while helping facilities meet nutrient removal limits. Utilizing patented and proprietary technology, the Company provides both equipment and process control solutions to enhance plant performance in the water and wastewater markets. For additional information please visit [www.enviro-mix.com](http://www.enviro-mix.com).



Continued operation of a BioMix installation at the F. Wayne Hill WRC in Gwinnett County, Georgia, provides energy-efficient anaerobic selector reactor mixing with effective orthophosphate release and subsequent uptake.

In 2009, BioMix was installed in multiple biological treatment cells of the facility’s modified Bardenpho process. BioMix, installed in anaerobic selector Cell A2 in Train 10, was compared directly against the respective biological phosphorus removal performance in parallel Trains 5 and 7, both with submersible mixers. Within each train, Cell A2 is the second of two anaerobic selector cells, and Cell C6 is the final oxic cell of aerobic treatment.

## Demonstrated Results

The variance in data collected between trains for the respective process tanks is insignificant. Orthophosphate release rates are similar utilizing either mixing technology, as are the luxury uptake rates within the aerobic sections at the end of the biological treatment processes. This data verifies the ORP data previously examined by Dr. Clifford Randall of Virginia Tech, confirms the insignificant oxygen transfer of BioMix, and validates BioMix usage in anaerobic wastewater treatment processes.

Ortho-P (as P) for Respective Anaerobic Selector Cells  
Parallel Process Trains, Cells A2

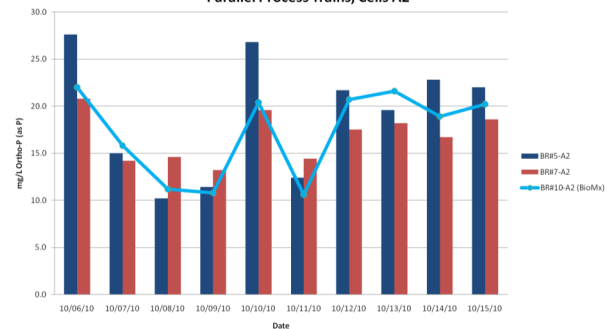


Figure 1

Figures 1 and 2 present data collected by laboratory personnel at the F. Wayne Hill WRC. Train 10, utilizing BioMix, is represented by a light blue line. Trains 5 and 7, employing submersible mechanical mixers, are represented by vertical bars.

Ortho-P (as P) for Respective Final Oxic Modified Bardenpho Cells  
Parallel Process Trains, Cells C6

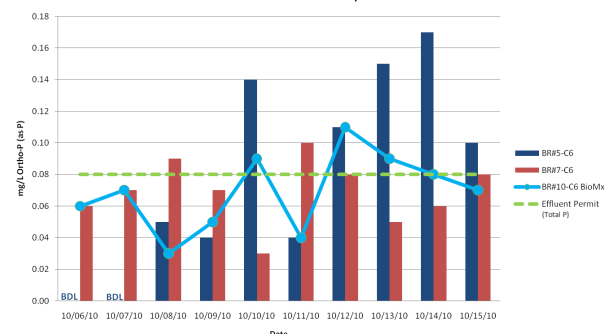


Figure 2